



● **Board of Directors**  
***Engineering and Operations Committee***

1/11/2011 Board Meeting

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**7-3**

**Subject**

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Appropriate \$1.38 million; and award \$678,000 contract to Fibrwrap Construction, Inc. for Stage 2 repairs of the Calabasas Feeder (Approp. 15441)

**Description**

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This action authorizes the repair of seven remaining prestressed concrete cylinder pipe (PCCP) sections on the Calabasas Feeder with prestressing wire breaks. Due to the critical role of this pipeline in delivering treated water to member agencies, the repairs have been scheduled for April 2011.

**Timing and Urgency**

The Calabasas Feeder is a 54-inch PCCP line which was installed in 1975. In December 2009, electromagnetic inspections identified 14 pipe sections with breaks in their prestressing wires. The Stage 1 repairs, which consisted of the seven pipe sections with the highest number of wire breaks, were completed in April 2010. The Stage 2 repairs, which consist of the remaining seven pipe sections, are the subject of this action. These repairs will reduce the risk of pipe failure and disruption of water deliveries to member agencies.

This project has been reviewed with Metropolitan's updated Capital Investment Plan (CIP) prioritization criteria, and is categorized as an Infrastructure Reliability project. This project is budgeted within Metropolitan's CIP for fiscal year 2011/12.

**Background**

The Calabasas Feeder is a 54-inch-diameter PCCP line which was constructed in 1975. The pipeline is approximately 9 miles long, and delivers treated water from the Joseph Jensen Water Treatment Plant to the cities of Agoura Hills, Calabasas, Hidden Hills, Westlake Village, and areas of unincorporated western Los Angeles County.

In December 2009, an electromagnetic inspection of the feeder was completed, and results indicated that the Calabasas Feeder had 14 pipe sections with breaks in their prestressing wires. No "broken back" segments were detected. Broken back segments exhibit cracking that exposes the pipe to accelerated rates of corrosion, leading to external leakage. In March 2010, Metropolitan's Board authorized design of repairs to the pipe sections, which are being completed in two stages. Stage 1 addressed seven pipe sections with 15 or greater wire breaks per 20-foot-long section, and was completed in April 2010. Stage 2 will address the remaining seven distressed PCCP sections, which have 10 to 15 wire breaks per section. There will be seven separate repair locations. Final design of the Stage 2 repairs using carbon fiber is now complete, and staff recommends award of a construction contract to complete those repairs.

Carbon fiber lining is often the preferred method of repair for PCCP due to the ease of construction, speed of repair, and reduced cost. With carbon fiber lining repair there is no need to fabricate piping, mobilize heavy equipment, or excavate and remove pipe requiring repair. In addition, aboveground construction impacts are reduced.

The carbon fiber lining process is a patented process with two co-patent holders. Metropolitan's legal staff has reviewed the patent and concluded that it is an active patent in good standing, issued by the U.S. Patent Office in 1999. Metropolitan is aware of only two firms (Fibrwrap Construction, Inc. and Slater Waterproofing, Inc.) that have a license to use the patented process and have successful experience in performing repairs on large diameter pipes. Pursuant to Administrative Code Sections 8140 (d) and (e), competitive bidding procedures may be waived or modified if articles (or processes) are patented and not generally available, and if competitive procurement is impracticable or would not produce any advantage. These code sections are applicable to the Calabasas Feeder repair. Staff therefore solicited bids from the two firms that have a license to use the process.

### **Calabasas Feeder Repairs Stage 2 – Construction Phase (\$1,380,000)**

Specifications No. 1691 for the Stage 2 Repairs of the Calabasas Feeder was issued on November 17, 2010. Bids were requested from the two qualified contractors who have the required qualifications, experience, and license to perform the specialized work of installing carbon fiber lining. The work includes repair of seven pipe sections using carbon fiber lining. As shown in [Attachment 2](#), two bids were received and opened on December 7, 2010. The low bid from Fibrwrap Construction, Inc., in the amount of \$678,000, complies with the requirements of the specifications. The engineer's estimate was \$910,000. The other bid was in the amount of \$1,459,650. Due to the specialized nature of the work, no Small Business Enterprise participation was established for this contract.

Construction inspection will be performed by Metropolitan staff. The anticipated cost of inspection as a percentage of the total construction cost is approximately 14.6 percent. Engineering Services' goal for inspection of contracts with construction cost less than \$3 million is 9 to 15 percent.

This action appropriates \$1.38 million and awards a \$678,000 contract to Fibrwrap Construction, Inc., for Stage 2 repairs of the Calabasas Feeder. In addition to the amount of the contract, the requested funds include \$315,000 for Metropolitan force shutdown activities, which include dewatering at seven locations and return of the pipeline back to service. The requested funds also include \$145,000 for construction inspection; \$30,000 for Metropolitan staff to review submittals received from the contractor, respond to requests for information, advise inspection staff on technical issues, and prepare record drawings; \$80,000 for project management, local agency permitting, and environmental monitoring; and \$132,000 for remaining budget.

### **Summary**

This action appropriates \$1.38 million for Stage 2 repairs of the Calabasas Feeder. This work has been evaluated and recommended by Metropolitan's CIP Evaluation Team, and funds have been included in the fiscal year 2010/11 capital budget. See [Attachment 1](#) for the Financial Statement, [Attachment 2](#) for the Abstract of Bids, and [Attachment 3](#) for the Location Map.

This project is included within capital Appropriation No. 15441, the Conveyance and Distribution System Rehabilitation Program Stage 2, which was initiated in fiscal year 2006/07. Appropriation No. 15441 also includes other projects such as PCCP repairs of the Lake Skinner Outlet Conduit, Rialto Pipeline, San Diego Pipeline No. 5, and Sepulveda Feeder. With the present action for the Calabasas Feeder, the total funding for Appropriation No. 15441 will increase from \$29,199,000 to \$30,579,000.

This project is consistent with Metropolitan's goal for sustainability by enhancing the reliability of the existing conveyance and distribution system in order to maintain reliable water deliveries in the future.

### ***Project Milestone***

April 2011 – Completion of construction

### **Policy**

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Metropolitan Water District Administrative Code Section 5108: Appropriations

Metropolitan Water District Administrative Code Section 8121: General Authority of the General Manager to Enter Contracts

## California Environmental Quality Act (CEQA)

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CEQA determination for Option #1:

The proposed actions are exempt under the provisions of CEQA and the State CEQA Guidelines. The proposed actions include the immediate remedial repair of existing pipelines with the same purpose and capacity. Accordingly, the proposed actions qualify under a statutory exemption (Sections 21060.3 and 21080(b) of the California Public Resources Code and Section 15269 of the State CEQA Guidelines).

The CEQA determination is: Determine that pursuant to CEQA, the proposed actions qualify under a statutory exemption (Sections 21060.3 and 21080(b) of the California Public Resources Code and Section 15269 of the State CEQA Guidelines).

CEQA determination for Option #2:

None required

## Board Options

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### Option #1

Adopt the CEQA determination and

- a. Appropriate \$1.38 million; and
- b. Award \$678,000 contract to Fibrwrap Construction, Inc. for Stage 2 repairs to the Calabasas Feeder.

**Fiscal Impact:** \$1.38 million of budgeted funds under Approp. 15441

**Business Analysis:** This project will protect the Calabasas Feeder, help maintain reliable deliveries to Metropolitan's member agencies, and reduce the risk of costly emergency repairs.

### Option #2

Do not authorize repairs to the Calabasas Feeder and re-advertise in an attempt to receive more favorable bids.

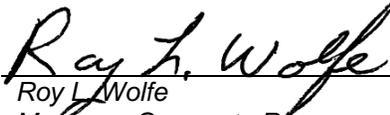
**Fiscal Impact:** None

**Business Analysis:** This option would forego an opportunity to perform urgent repairs. The feeder will continue to be monitored, and repairs will be deferred to another season. Deferral may result in increased costs for future repairs. In addition, an opportunity would be missed to perform the work during a planned shutdown in April 2011. A separate future shutdown would be required.

## Staff Recommendation

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Option #1

 Roy L. Wolfe Manager, Corporate Resources	12/28/2010 Date
 Jeffrey Hightlinger General Manager	12/28/2010 Date

[Attachment 1 – Financial Statement](#)

[Attachment 2 – Abstract of Bids](#)

[Attachment 3 – Location Map](#)

### **Financial Statement for Conveyance and Distribution System Rehabilitation Program – Stage 2**

A breakdown of Board Action No. 30 for Appropriation No. 15441 for the Calabasas Feeder Repair Project\* is as follows:

	<b>Previous Total Appropriated Amount (Jan. 2011)</b>	<b>Current Board Action No. 30 (Jan. 2011)</b>	<b>New Total Appropriated Amount</b>
Labor			
Studies & Investigations	\$ 1,784,200	\$ -	\$ 1,784,200
Final Design	2,331,400	-	2,331,400
Owner Costs (Prog. mgmt, permitting, envir. monitoring)	3,535,750	80,000	3,615,750
Submittals Review & Record Drwgs	-	30,000	30,000
Construction Inspection & Support	1,269,000	145,000	1,414,000
Metropolitan Force Construction	6,659,700	297,000	6,956,700
Materials and Supplies	1,430,100	8,000	1,438,100
Incidental Expenses	762,400	5,000	767,400
Professional/Technical Services	1,043,500	-	1,043,500
Equipment Use	223,200	5,000	228,200
Contracts	7,396,130	678,000	8,074,130
Remaining Budget	2,763,620	132,000	2,895,620
<b>Total</b>	<b>\$ 29,199,000</b>	<b>\$ 1,380,000</b>	<b>\$ 30,579,000</b>

### **Funding Request**

<b>Program Name:</b>	Conveyance and Distribution System Rehabilitation Program - Stage 2		
<b>Source of Funds:</b>	Revenue Bonds, Replacement and Refurbishment or General Funds		
<b>Appropriation No.:</b>	15441	<b>Board Action No.:</b>	30
<b>Requested Amount:</b>	\$ 1,380,000	<b>Capital Program No.:</b>	15441
<b>Total Appropriated Amount:</b>	\$ 30,579,000	<b>Capital Program Page No.:</b>	277
<b>Total Program Estimate:</b>	\$ 53,850,000	<b>Program Goal:</b>	Infrastructure Reliability

\* The total amount expended to date on the Calabasas Feeder Repairs project is approximately \$1,563,513.

**The Metropolitan Water District of Southern California****Abstract of Bids Received on December 7, 2010 at 2:00 P.M.****Specifications No. 1691, Calabasas Feeder Carbon Fiber Lining Stage 2 Repair**

The project consists of repair of seven distressed PCCP sections using carbon fiber lining on the Calabasas Feeder.

**Engineer's Estimate: \$910,000**

<b>Bidder and Location</b>	<b>Total</b>
<b>Fibrwrap Construction, Inc. Duarte, CA</b>	<b>\$678,000</b>
Slater Waterproofing, Inc. Montclair, CA	\$1,459,650

# Calabasas Feeder

